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Patent Application
Attorney Docket No.: 58020.000027
Client Reference No.: D-97001

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Robert K. Wade

Appln. No.: 09/605,162

Filed: June 27, 2000

For: BI-DIRECTIONAL WAVELENGTH DIVISION MULTIPLEXING/ DEMULTIPLEXING DEVICES

Group Art Unit: Not yet assigned

Examiner: Not yet assigned

Assistant Commissioner
for Patents
Washington, D.C. 20231

INFORMATION DISCLOSURE STATEMENT

Sir:

In accordance with the duty under 37 C.F.R. § 1.56 of each individual associated with the filing and prosecution of the above-identified patent application (hereinafter, "associated individuals") to disclose all information known to that individual to be material to patentability, Applicant(s) hereby submits attached Form PTO-1449 (modified) listing cited references. This submission is made in accordance with 37 C.F.R.

§§ 1.97 and 1.98 and § 609 of the Manual of Patent Examining Procedure.

The cited references, while believed to be of some relevance, are not necessarily considered to teach or suggest any aspect of the invention described and claimed in the above-identified patent application. Applicant(s) hereby expressly reserves the right to swear behind the effective dates of any of the cited references. Applicant(s) further reserves the right to question the relevance, materiality, and/or prior art status of any of the cited references in whole, in part, or in combination, subsequent to the filing of this information disclosure statement. This information disclosure statement is also not to be construed as a representation that a search has, or has not, been conducted or that no better art exists. Rather, this information disclosure statement discloses only the best references of which the associated individuals are aware.

The Examiner is respectfully requested to consider each of the cited references, to indicate such consideration by initialing in the space provided next to each cited reference on

the enclosed Form PTO-1449 (modified), to sign the initialed Form PTO-1449 (modified), and to return a copy of the same with the next communication to the Applicant(s).

For the convenience of the Examiner in considering the cited references, a copy of each of the cited references is enclosed with this communication. In considering the cited references, it may be noted by the Examiner that certain of the references may contain markings, underlinings, and/or other notations. These markings, underlinings, and/or other notations are not to be construed as drawing the Examiner's attention either to selected parts or away from other parts of the cited references. Any such markings were either present on the copies of the cited references obtained by the associated individuals, or were made thereon during the study of the references by the associated individuals.

In accordance with 37 CFR § 1.97(b), this information disclosure statement is being filed (i) within three months of the filing date of the above-identified patent application; (ii) within three months of the date upon which the above-identified

patent application entered the national stage as set forth in 37 CFR § 1.491; or (iii) before the mailing date of a first Office Action on the merit for the above-identified patent application. Accordingly, no statement or fee is required.

Please charge any shortage in fees due in connection with the filing of this communication to Deposit Account No. 50-0206, and please credit any excess fees to such deposit account.

Respectfully submitted,

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FORM PTO-1449 (REV. 7-80)	U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTY. DOCKET NO.: 58020.000027	SERIAL NO.: 09/605,162
	LIST OF MATERIALS CITED BY APPLICANT	INVENTOR'S NAME: Robert K. Wade	EXAMINER: Not Yet Assigned
	(Use several sheets if necessary)	FILING DATE: June 27, 2000	GROUP: Not Yet Assigned

U.S. PATENT DOCUMENTS

*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE
	A-1	5,457,573	10/10/95	Iida et al.	359	569	
	A-2	4,857,726	08/15/89	Kinney et al.	250	226	
	A-3	5,170,451	12/08/92	Ohshima	385	43	
	A-4	5,555,334	09/10/96	Ohnishi et al.	385	93	
	A-5	4,708,425	11/24/87	Gouali et al.	350	96.16	
	A-6	5,742,416	04/21/98	Mizrahi	359	134	
	A-7	4,274,706	06/23/81	Tangonan	350	96.19	
	A-8	5,768,450	06/16/98	Bhagavatula	385	24	
	A-9	4,923,271	05/08/90	Henry et al.	350	96.19	
	A-10	5,583,683	12/10/96	Scobey	359	127	
	A-11	5,355,237	10/11/94	Lang et al.	359	130	
	A-12	4,748,614	05/31/88	Dammann et al.	370	3	
	A-13	4,703,472	10/27/87	Blumentritt et al.	370	3	
	A-14	5,657,406	08/12/97	Ball	385	24	
	A-15	5,745,612	04/28/98	Wang et al.	385	24	
	A-16	4,643,519	02/17/87	Bussard et al.	350	96.19	
	A-17	4,634,215	01/06/87	Reule	350	96.16	
	A-18	4,773,063	09/20/88	Hunsperger et al.	370	3	
	A-19	4,744,618	05/17/88	Mahlein	350	96.19	
	A-20	4,752,108	06/21/88	Vollmer	350	96.12	
	A-21	5,228,103	07/13/93	Chen et al.	385	14	
	A-22	4,279,464	07/21/81	Colombini	350	96.19	
	A-23	5,500,910	03/19/96	Boudreau et al.	385	24	
	A-24	5,450,510	09/12/95	Boord et al.	385	37	
	A-25	4,746,186	05/24/88	Nicia	350	96.13	
	A-26	4,760,569	07/26/88	Mahlein	350	3	
	A-27	4,652,080	03/24/87	Carter et al.	350	96.19	

EXAMINER	DATE CONSIDERED

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

	A-28	4,819,224	04/04/89	Laude	370	3	
	A-29	4,786,133	11/22/88	Gidon et al.	350	96.19	
	A-30	5,513,289	04/30/96	Hosokawa et al.	385	33	
	A-31	4,740,951	04/26/88	Lizet et al.	370	3	
	A-32	5,748,815	05/05/98	Hamel et al.	385	37	
	A-33	5,777,763	07/07/98	Tomlinson, III	359	130	
	A-34	4,626,069	12/02/86	Dammann et al.	350	162.2	
	A-35	5,745,270	04/28/98	Koch	359	124	
	A-36	5,442,47	08/15/95	Skrobko	359	110	
	A-37	5,748,350	05/05/98	Pan et al.	359	130	
	A-38	5,606,434	02/25/97	Feldman et al.	359	3	
	A-39	5,363,220	11/08/94	Kuwayama et al.	359	3	
	A-40	4,343,532	08/10/82	Palmer	350	96.19	
	A-41	5,440,416	08/08/95	Cohen et al.	359	127	
	A-42	4,111,524	09/05/78	Tomlinson, III	350	96.19	
	A-43	4,153,330	05/08/79	Tomlinson, III	350	96.17	
	A-44	4,198,117	04/15/80	Kobayashi	350	96.19	
	A-45	4,299,488	11/10/81	Tomlinson, III	356	328	
	A-46	4,387,955	06/14/83	Ludman et al.	350	96.19	
	A-47	4,479,697	10/30/84	Kapany et al.	350	96.18	
	A-48	4,522,462	06/11/85	Large et al.	350	96.19	
	A-49	4,583,820	04/22/86	Flamand et al.	350	96.19	
	A-50	4,622,662	11/11/86	Laude et al.	370	003	
	A-51	4,671,607	01/09/87	Laude	350	96.15	
	A-52	4,741,588	05/03/88	Nicia et al.	350	96.19	
	A-53	4,749,247	06/07/88	Large	350	96.16	
	A-54	4,763,969	08/16/88	Khoe et al.	350	96.19	
	A-55	4,834,485	05/30/89	Lee	350	96.19	
	A-56	4,836,634	06/06/89	Laude	350	96.19	
	A-57	4,926,412	05/15/90	Jannson et al.	370	3	
	A-58	4,930,855	06/05/90	Clark et al.	350	96.19	
	A-59	4,934,784	06/19/90	Kapany et al.	350	96.18	
	A-60	5,026,131	06/25/91	Jannson et al.	350	3.7	
	A-61	5,107,359	04/21/92	Ohuchida	359	124	
	A-62	5,278,687	01/11/94	Jannson et al.	359	125	
	A-63	5,526,155	06/11/96	Knox et al.	359	130	
	A-64	5,745,271	04/28/98	Ford et al.	359	130	
	A-65	5,748,815	05/05/98	Hamel et al.	385	37	

EXAMINER	DATE CONSIDERED
*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

	A-66	4,726,645	02/23/88	Yamashita et al.	350	96.18	
	A-67	5,541,774	07/30/96	Blankenbecler	359	653	
	A-68	5,703,722	12/30/97	Blankenbecler	359	653	
	A-69	5,880,834	03/09/99	Chrisp	356	328	

EXAMINER	DATE CONSIDERED

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

		OTHER MATERIALS (Including Author, Title, Date, Pertinent Pages, Etc.)
	C-1	G. R. Harrison, Ph.D., Sc.D. et al., Practical Spectroscopy, Chapter 4 - Diffraction-Grating Spectrographs, Prentice Hall (1948)
	C-2	W. J. Tomlinson, Wavelength multiplexing in multimode optical fibers, Applied Optics, Vol. 16, No. 8 (August 1977)
	C-3	W.J. Tomlinson et al., Optical multiplexer for multimode fiber transmission systems, Appl. Phys. Lett., Vol. 31, No. 3 (August 1977)
	C-4	W. J. Tomlinson et al., Optical wavelength-division-multiplexer for the 1-1.4 μm spectral region, Electronics Letters, Vol. 14, No. 11 (May 25, 1973)
	C-5	T. Miki et al., Viabilities of the wavelength-division-multiplexing transmission system over an optical fiber cable, IEEE Transactions on Communications, Vol. Com-26, No. 7 (July 1978)
	C-6	K. Aoyama et al., Optical demultiplexer for a wavelength division multiplexing system, Applied Optics, Vol. 18, No. 8 (April 15, 1979)
	C-7	K. Aoyama et al., Low-loss optical demultiplexer for WDM system in the 0.8 μm wavelength region, Applied Optics, Vol. 18, No. 16 (August 15, 1979)
	C-8	R. Watanabe et al., Optical Demuliplexer Using Concave Grating in 0.7-0.9 um Wavelength Region, Electronics Letters, Vol. 16, No. 3 (January 31, 1980)
	C-9	K. Kobayashi et al., Microoptic Grating Multiplexers and Optical Isolators for Fibers-Optic Communications, Journal of Quantum Electronics, Vol. QE-16, No. 1 (January 1980)
	C-10	Y. Fujii et al., Optical Demultiplexer Using a Silison Echelette Grating, IEEE Journal of Quantum Electronics, Vol. QE-16, No. 2 (February 1980)
	C-11	W. J. Tomlinson, Applications of GRIN-rod lenses in optical fiber communication systems, Applied Optics, Vol. 19, No. 7 (April 1, 1980)
	C-12	A. Nicia, Wavelength Multiplexing and Demultiplexing Systems for Singlemode and Multimode Fibers, Conference Proceedings, European Conference on Optical Communication (September 8-11, 1981)
	C-13	B.D. Metcalf et al., High-capacity wavelength demultiplexing with a large-diameter GRIN rod lens, Applied Optics, Vol. 21, No. 5 (March 1, 1982)
	C-14	J. Lipson et al., Low-Loss Wavelength Division Multiplexing (WDM) Devices for Single-Mode Systems, Journal of Lightwave Technology, Vol. LT-1, No. 2 (June 1983)
	C-15	G. Winzer, Wavelength Multiplexing Components - A Review of Single-Mode Devices and their Applications, Journal of Lightwave Technology, Vol. LT-2, No. 4 (August 1984)
	C-16	H. Ishio et al., Review and Status of Wavelength-Division-Multiplexing Technology and Its Application, Journal of Lightwave Technology, Vol. LT-2, No. 4 (August 1984)
	C-17	Y. Fujii et al., Optical Demultiplexer Utilizing an Ebert Mounting Silicon Grating, Journal of Lightwave Technology, Vol. LT-2, No. 5 (October 1984)
	C-18	J. Lipson et al., A Four-Channel Lightwave Subsystem Using Wavelength Division Multiplexing, IEEE Journal of Lightwave Technology, Vol. LT-3, No. 1 (February 1985)
	C-19	B. Hillerich et al., Wide Passband Grating Multiplexer for Multimode Fibers, Journal of Lightwave Technology, Vol. LT-3, No. 3 (June 1985)
	C-20	J. Lipson et al., A Six-Channel Wavelength Multiplexer and Demultiplexer for Single Mode Systems, Journal of Lightwave Technology, Vol. LT-3, No. 5 (October 1985)
	C-21	I. Nishi et al., Broad Passband Multi/Demultiplexer for Multimode Fibers Using a Diffraction Grating and Retroreflectors, Journal of Lightwave Technology, Vol. LT-5, No. 12 (December 1987)
	C-22	B. Moslehi et al., Fiber-optic wavelength-division multiplexing and demultiplexing using volume holographic gratings, Optics Letters, Vol. 14, No. 19 (October 1, 1989)
	C-23	Y. Huang et al., Wavelength-division-multiplexing and -demultiplexing by using a substrate-mode grating pair, Optics Letters, Vol. 17, No. 22 (November 15, 1992)
	C-24	M. Wu et al., Design Considerations for Rowland Circle Grating Used in Photonic Integrated Devices for WDM Applications, Journal of Lightwave Technology, Vol. 12, No. 11 (November 1994)
	C-25	A. Stavdas et al., Design of a holographic concave grating used as a multiplexer/demultiplexer in dense wavelength-routed optical networks with subnanometer channel spacing, Journal of Modern Optics, Vol. 42, No. 9, pp. 1863-1874 (September 1995)
	C-26	C. Zhou et al., Four Channel Multimode Wavelength Division Demultiplexer (WDM) System Based on Surface-normal Volume Holographic Gratings and Substrate-guided Waves, SPIE, Vol. 3288
	C-27	A. Stavdas et al., Free-Space Aberration-Corrected Diffraction Grating Demultiplexer for Application in Densely-Spaced, Subnanometer Wavelength Routed Optical Networks, IEEE Electronic Letters, Vol. 31, No. 16, pp. 1368-1370 (August 1995)
	C-28	D. Wisely, High performance 32 channel HDWDM multiplexer with 1nm channels spacing and 0.7nm bandwidth, SPIE, Vol.

EXAMINER	DATE CONSIDERED

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

		1578, Fiber Networks for Telephony and CATV (1991)
	C-29	A. Cohen et al., Active management of 100-GHz-spaced WDM channels, Optical Fiber Communication Conference and the International Conference on Integrated Optics and Optical Fiber Communication, Technical Digest, Conference Edition (February 24, 1999)
	C-30	B. Keyworth et al., Low Loss, Temperature Stable Diffraction Grating Wavelength (DE) Multiplexer, National Fiber Optic Engineers Conference, Technical Proceedings, Vol. I (September 13-17, 1998)
	C-31	M. Seki et al., 20-Channel Micro-Optic Grating Demultiplexer for 1.1-1.6um Band Using a Small Focusing Parameter Graded - Index Rod Lens, Electronics Letters, Vol. 18, No. 6 (March 18, 1982)
	C-32	A. Koonen, A Compact Wavelength Demultiplexer Using Both Interference Filters and a Diffraction Grating, European Conference of Optical Communication, Conference Proceedings (September 8-11, 1981)
	C-33	J. Conradi et al., Laser Based WDM Multichannel Video Transmission System, Electronic Letters, Vol. 17, No. 2 (January 22, 1981)
	C-34	J. Laude et al., Wavelength division multiplexing/demultiplexing (WDM) using diffraction gratings, SPIE, Vol. 503, Application, Theory, and Fabrication of Periodic Structures (1984)
	C-35	A. Livanos et al., Chirped-grating demultiplexers in dielectric waveguides, Applied Physics Letters, Vol. 30, No. 10 (May 1977)
	C-36	H. Obara et al., Star Coupler Based WDM Switch Employing Tunable Devices With Reduced Tunability Range, Electronic Letters, Vol. 28, No. 13 (June 1992)
	C-37	A. Willner et al., 2-D WDM Optical Interconnections Using Multiple-Wavelength VCSEL's for Simultaneous and Reconfigurable Communication Among Many Planes, IEEE Phoyonics Technology Letters, Vol. 5, No. 7 (July 1993)
	C-38	M. Wang et al., Five Channel Polymer Waveguide Wavelength Division Demultiplexer for the Near Infrared, IEEE Photonics Technology Letters, Vol. 3, No. 1 (January 1991)
	C-39	M. Li et al., Two-channel surface-normal wavelength demultiplexer using substrate guided waves in conjunction with numtiplexed waveguide holograms, Appl. Phys. Lett., Vol. 66, No. 3 (January 1995)
	C-40	J. Laude et al., Stimax, A Grating Multiplexer for Monomode or Multimode Fibers, Ninth European Conference on Optical Communication-ECOC83, Geneva, Switzerland (October 23-26, 1983)
	C-41	R. Watanabe et al., Optical Grating Multiplexer in the 1.1-1.5mm Wavelength Region, Electronics Letters, Vol. 16, No. 3 (January 31, 1980)
	C-42	G.D. Khoe, New Integrated Subscriber Star Network Combining Maximum Versatility With Minimum Costs of Installation and Maintenance, European Conference on Optical Communication, Conference Proceedings, Copenhagen, Bella Center (September 8-11, 1981)
	C-43	T. Lingelsheim et al., Fabrication of micro-optical wavelength division multiplexer (WDM) gratings on glass using an ion etching technique, SPIE Vol. 503, Application, Theory, and Fabrication of Periodic Structures (1984)
	C-44	D. Maystre et al., Optimization of wavelength demultiplexer in fiber optics using gold echelette gratings, SPIE Vol. 503, Application, Theory, and Fabrication of Periodic Structures (1984)
	C-45	D.R. Wisely, 32 Channel WDM Multiplexer with 1nm Channel Spacing and 0.7 nm Bandwidth, Electronics Letters, Vol. 27, No. 6, pp. 520-21 (March 14, 1991)
	C-46	C. Koeppen, et al., High Resolution Fiber Grating Optical Network Monitor, National Fiber Optic Engineers Conference, Technical Proceedings, Vol. II (September 13-17, 1998)
	C-47	M.J. Cohen, et al. InGaAs photodiode arrays for DWDM monitoring and receiving, Lightwave, pp. 99-101 (August 1999)
	C-48	J.P. Laude, Wavelength Division Multiplexing, pp. 116-117, (1993).
	C-49	Sami Hendow, et al., Performance Monitors Enable Remote Channel Management, Lightwave Special Reports, pp. 62-66 and 72 (February 2000).
	C-50	Adrian Meldrum, C- and L-band Channel Monitoring, Lightwave Special Reports, pp. 68-72 (February 2000)

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